SCDHEC *Earth Today*

Lesson Grade Level: 5
Lesson Title: How humans affect ecosystems.
SC State Science Standard(s):
   (II, B, 4, e) Draw conclusions about the influence of human activity on ecosystems. **(P)**
   (IV, A, 2, f) Research and identify common pollutants, and their sources, and infer their
         impact as they relate to water quality, since water is the universal solvent. **(P, N)**

Segment Link:
   This lesson can tie into the section on beach pollution and the section on watersheds.

Lesson Overview:
   In this lesson, students will explain how different types of pollution affect the environment as a
   guided inquiry exercise. This can be done prior to the video or as a follow-up activity to further
   explore the ideas presented in the video.

Background:
   Pollution can take a variety of forms, from air and water pollution to light and sound pollution.
   While light pollution is only an inconvenience to star-gazers with telescopes, air, soil and water
   pollution can directly affect plant and animal life in an affected area. Pollution can foul the soil
   used by plants as a source of inorganic nutrients. It can damage water quality, making water
   unsafe for both plants and animals. Air pollution can cause breathing problems for animals and
   can contribute to acid rain, which damages plants. Sound pollution can cause harm to animals,
   such as bats and whales, that rely on sound. Sources of pollution can include solid waste from
   garbage being dumped in waterways and on the ground, as well as chemical pollutants such
   as oils, fertilizers, pesticides, cleaners and other hazardous materials that are washed down
   drains. Automobiles, industries and power plants also create pollution as a result of their
   emissions. Runoff is of particular significance as both a solid and chemical waste. When it
   rains, this type of waste may be washed into the nearest body of water, often a drinking
   source.

Lesson Plan:
   1. Students will use the pictures on the attached worksheet and describe the types of pollution
       that each picture depicts. They will then describe how each one affects the environment.

How humans affect ecosystems

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